

IN THE CLAIMS:

11/13
BA 5/28/03

What is claimed is:

Sub C/ 1. (Amended Once) ~~An In-an~~ XY address type solid state image pickup device ~~having an image pickup region, in which a pixel comprising a plurality of pixels each~~ having a photoelectric conversion unit ~~and producing a signal from an incident light is arranged in rows and columns row and column,~~ a horizontal scanning circuit and a vertical scanning circuit, ~~a solid state image pickup device being characterized in that~~ wherein a reading operation for a signal of a pixel in one row and an electronic shutter operation for a signal of a pixel in ~~other~~ another row are carried out ~~at the same time~~ during one pixel period and further wherein the solid state image pickup device has a plurality of signal lines, each of said signal lines being associated with corresponding pixels and each of said signal lines is used for both said reading operation and said shutter operation.

2. (Amended Once) A solid state image pickup device according to claim 1, characterized in that a reading operation of a signal of a pixel in one column in the one row and an electronic shutter operation for a signal of a pixel in the one column in the other row are performed ~~at the~~ during a same time period.

3. (Amended Once) A solid state image pickup device according to claim 1, characterized in that a reading operation of a signal of a pixel in one column in the one row and an electronic shutter operation for a signal of a pixel in a column adjacent to the one column in the other row are performed ~~at the~~ during a same time period.

4. (Amended Once) A solid state image pickup device according to claim 1, characterize in that a read scanning pulse and an electronic shutter scanning pulse are respectively supplied from ~~both of~~ said horizontal scanning circuit and said vertical scanning circuit.

5. (Amended Once) A solid state image pickup device according to claim 4, characterized in that one pulse is supplied for each pixel as the read scanning pulse, one pulse is supplied for each pixel as the electronic shutter scanning pulse, and one of the read scanning pulse and the electronic shutter scanning pulse is supplied at a timing ~~at which~~ such that phases of the read scanning pulse and the electronic shutter scanning pulse do not overlap.

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6. (Amended Once) A solid state image pickup device according to claim 1, ~~characterized by comprising such a pixel arrangement in which~~ wherein a vertical selection switch for ~~performing an operation of~~ reading a signal charge, ~~which is obtained by~~ from the pixel in the photoelectric conversion unit, to a signal line is controlled by a product between a vertical scanning pulse and a horizontal read pulse, and ~~in that~~ further wherein a charge detection amplifier for converting the read signal charge into a voltage is connected to said signal line, and a read scanning pulse and an electronic shutter scanning pulse are respectively supplied from ~~both of~~ the horizontal scanning circuit and the vertical scanning circuit.

7. (Amended Once) A solid state image pickup device according to claim 6, characterized in that one pulse is supplied for each pixel as the read scanning pulse, one pulse is supplied for each pixel as the electronic shutter

scanning pulse, and one of the read scanning pulse and the electronic shutter scanning pulse is supplied ~~at a timing at which~~ such that phases of the read scanning pulse and the electronic shutter scanning pulse do not overlap.

8. (Amended Once) ~~A~~ In a method for driving an XY address type solid state image pickup device having an image pickup region, in which a pixel with a plurality of pixels each having a photoelectric conversion unit and producing a signal from an incident light is arranged in rows and columns row and column, a horizontal scanning circuit, and a vertical scanning circuit and a plurality of signal lines being associated with corresponding pixels, a method for driving a solid state image pickup device being characterized in that comprising:

performing a reading operation for a signal of a pixel in one row and an electronic shutter operation for a signal of a pixel in other another row are carried out at the same time during one pixel period and further wherein each of said signal lines is used for both said reading operation and said shutter operation.

9. (Amended Once) A driving method for a solid state image pickup device according to claim 8, characterized in that a reading operation of a signal of a pixel in one column in the one row and an electronic shutter operation for a signal of a pixel in the one column in the other row are performed during a same period of time at the same time.

10. (Amended Once) A driving method for a solid state image pickup device according to claim 8, characterized in that ~~a~~ the reading operation of a pixel in one column in the one row and an electronic shutter operation for a pixel

in a column adjacent to the one column in the other row are performed ~~at the same time~~ during a same period of time.

11. (Amended Once) A driving method for a solid state image pickup device according to claim 8, characterized in that a read scanning pulse and an electronic shutter scanning pulse are respectively supplied from ~~both of the~~ horizontal scanning circuit and the vertical scanning circuit.

12. (Amended Once) A driving method for a solid state image pickup device according to claim 11, characterized in that one pulse is supplied for each pixel as the read scanning pulse, one pulse is supplied for each pixel as the electronic shutter scanning pulse, and one of the read scanning pulse and the electronic shutter scanning pulse is supplied ~~at a timing at which~~ such that phases of the read scanning pulse and the electronic shutter scanning pulse do not overlap.

13. (Amended Once) A driving method for a solid state image pickup device according to claim 8, ~~characterized in that~~ wherein a vertical selection switch for ~~performing a reading operation of a signal charge, which is obtained~~ by the pixel in the photoelectric conversion unit, to a signal line is controlled by a product of a vertical scanning pulse and a horizontal read pulse, the signal charge read to the signal line is converted into a voltage by a charge detection amplifier connected to said signal line, and a read scanning pulse and an electronic shutter scanning pulse are respectively supplied from ~~both of the~~ horizontal scanning circuit and the vertical scanning circuit.

14. (Amended Once) A driving method for a solid state image pickup device according to claim 13, characterized in that one pulse is supplied for each pixel as the read scanning pulse, one pulse is supplied for each pixel as the electronic shutter scanning pulse, and one of the read scanning pulse and the electronic shutter scanning pulse is supplied ~~at a timing at which~~ such that phases of the read scanning pulse and the electronic shutter scanning pulse do not overlap.

15. (Amended Once) A camera, comprising an optical system for focusing ~~an incident light from an object~~ on an image pickup region of a solid state image pickup element, an XY address type solid state image pickup element having the image pickup region, ~~in which a pixel~~ a plurality of pixels each provided with a photoelectric conversion unit ~~and for~~ producing a signal from the incident light is arranged in ~~row and column~~ rows and columns, a drive unit for driving the solid state image pickup element, and a signal processing unit for signal-processing an output signal from the solid state image pickup element to produce a video signal, wherein the drive unit has a horizontal scanning circuit and a vertical scanning circuit, and a reading operation for a signal of a pixel in one row and an electronic shutter operation for a signal of a pixel in ~~other~~ another row are carried out ~~at the same time~~ during one pixel period by the drive unit and further wherein said solid state image pickup element has a plurality of signal lines, each of said signal lines being used for both said reading operation and said shutter operation.